

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>2003P07734WO</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/050970</b>	International filing date (day/month/year) <b>01.06.2004</b>	Priority date (day/month/year) <b>30.06.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>SIEMENS AKTIENGESELLSCHAFT</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>8</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050970

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages \_\_\_\_\_ as originally filed/furnished
    - pages\* 1-5 \_\_\_\_\_ received by this Authority on 02.03.2005 with letter of 25.02.2005
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-3 \_\_\_\_\_ received by this Authority on 02.03.2005 with letter of 25.02.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets \_\_\_\_\_ as originally filed/furnished
    - sheets\* 1/2, 2/2 \_\_\_\_\_ received by this Authority on 02.03.2005 with letter of 25.02.2005
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050970

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-3	YES
	Claims		NO
Inventive step (IS)	Claims	1-3	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-3	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1: PATENT ABSTRACTS OF JAPAN Vol. 1997, No. 12,  
25 December 1997 (1997-12-25) -& JP 09 218040  
A (NISSAN MOTOR CO LTD), 19 August 1997  
(1997-08-19)

**Novelty:**

1.1 Document D1 is considered the closest prior art and looks at the same problem as the current application; see D1, paragraphs [0011]-[0013] and [0033]; D1 discloses a method for monitoring a vibration gyroscope, said method having the same features as those specified in the preamble of claim 1 (D1 was analysed using the on-line translation provided by the Japanese Patent Office on its website): the excitation signal (generated by the alternating voltage source 11) is interrupted, the amplitude of the fading output signal is evaluated (paragraphs [0017]-[0037] and fig. 2); the resonator quality is measured and when the quality levels falls below a threshold

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value, an error message is generated (paragraph [0037]).

- 1.2 The subject matter of claim 1 differs from the method known from D1 in that an additional phase rotation of the excitation signal is temporarily introduced into the control loop and a change in frequency resulting therefrom is evaluated. The subject matter of the claim is thus novel.

**Inventive step:**

- 2.1 The method known from D1 is described as relating to testing post-production, but prior to incorporation in a vehicle (paragraphs [0011]-[0014]). It is not, however, restricted to such a use, since the method does not include any step which proceeds from a vehicle stoppage (where the translation of D1 refers to "drive stop", for example in paragraph [0013], what is meant is that the excitation signal is interrupted, not that the vehicle is halted). The method is therefore perfectly suitable for use in a moving vehicle, it not being possible to measure the angular rate signal during the period in which the excitation signal is interrupted. The same would appear to apply, however, to the method described in the current application, since, as is shown in figure 2b, the resonator of t1 is in a temporary state which is not well defined, and therefore it is not immediately clear whether the running on of the control loop or an actually occurring angular rate

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is responsible for the modified signal. In other words, between t1 and t2 (and also still temporarily thereafter), no angular rate can be determined in the claimed method either. In this respect, the claimed method does not offer any advantage over D1.

2.2 The application therefore addresses the problem of finding an alternative to the method described in D1.

2.3 D1 contains nothing to suggest the temporary insertion of an additional phase rotation of the excitation signal. Nor is said insertion disclosed in another step in the same context.

2.4 Although a person skilled in the art is generally aware that analyses of periodic signals can be carried out in a time range as well as in a frequency range, it cannot be conclusively proven that in this specific case a person skilled in the art would necessarily replace the fading resonator amplitude with the changing resonator frequency.

2.5 For these reasons, the subject matter of claim 1 involves an inventive step.

2.6 Claims 2 and 3 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.